BEFORE THE PUBLIC SERVICE COMMISSION OF SOUTH CAROLINA

DOCKET NO. 2013-201-WS

In the Matter of:

Application of Utility Services of)
South Carolina, Inc. For Adjustment)
of Rates and Charges and)
Modification of Certain Terms and)
Conditions for the Provision of)
Water and Sewer Service)

Prepared Direct Testimony

of

Pauline M. Ahern, CRRA Principal AUS Consultants

On Behalf of

Utility Services of South Carolina, Inc.

September 19, 2013

TABLE OF CONTENTS

<u>Pag</u>	ge No.
Introduction	1
Summary	2
Reasonableness of Using Utilities, Inc.'s Consolidated Capital Structure and Long-Term Del	bt
Cost Rate for Ratemaking Purposes for USSC	3
Appendix A – Professional Qualifications of Pauline M. Ahern	

Introduction

- A. My name is Pauline M. Ahern and I am an Associate of AUS Consultants. My
 business address is 155 Gaither Drive, Suite A, Mount Laurel, New Jersey 08054.
- 5 Q. Please summarize your educational background and professional experience.
 - A. I have offered expert testimony on behalf of investor-owned utilities before twenty-nine state regulatory commissions as well as one provincial regulatory commission in Canada on rate of return issues, including but not limited to common equity cost rate, fair rate of return, capital structure issues, credit quality issues, etc. I am a graduate of Clark University, Worcester, MA, where I received a Bachelor of Arts degree with honors in Economics. I have also received a Master of Business Administration with high honors and a concentration in finance from Rutgers University. The details of my educational background, expert witness appearances, presentations I have given and articles I have co-authored are shown in Appendix A supplementing this testimony.

On behalf of the American Gas Association ("A.G.A."), I calculate the A.G.A. Gas Index, which serves as the benchmark against which the performance of the American Gas Index Fund ("AGIF") is measured monthly. The A.G.A. Gas Index and AGIF are a market capitalization weighted index and mutual fund, respectively, comprised of the common stocks of the publicly traded corporate members of the A.G.A.

I am also the Publisher of AUS Utility Reports, responsible for supervising the production, publication, distribution and marketing of its reports. I am also

responsible for overseeing the production of the annual Financial & Operating Statistics Report for the National Association of Water Companies ("NAWC").

I am a member of the Society of Utility and Regulatory Financial Analysts ("SURFA") where I serve on its Board of Directors, having served two terms as President, from 2006 – 2008 and 2008 – 2010. Previously, I held the position of Secretary/Treasurer from 2004 – 2006. In 1992, I was awarded the professional designation "Certified Rate of Return Analyst" ("CRRA") by SURFA, which is based upon education, experience and the successful completion of a comprehensive written examination.

I am also an associate member of the National Association of Water Companies, serving on its Finance/Accounting/Taxation and Rates and Regulation Committees; a member of the Energy Association of Pennsylvania, formerly the Pennsylvania Gas Association; and a member of the American Finance, Financial Management and Energy Bar Associations. I am also a member of Edison Electric Institute's Cost of Capital Working Group and the Advisory Board of the Financial Research Institute of the University of Missouri and the Advisory Council of New Mexico State University's Center for Public Utilities.

Summary

Q. What is the purpose of your testimony?

A. The purpose of my testimony is to support the reasonableness of Utilities, Inc.'s

(UI or the Parent) capital structure and related long-term debt cost rate at

December 31, 2012 for ratemaking purposes for Utility Services of South

Q.	Have you prepared an exhibit which supports your recommendation?
A.	Yes. My testimony is supported by Exhibit PMA-1, consisting of Schedules 1 and
	2.
	onableness of Using Utilities, Inc.'s Consolidated Capital Structure and Long- n Debt Cost Rate for Ratemaking Purposes for USSC
Q.	What capital structure ratios and long-term debt cost rate do you
	recommend be used to determine an overall fair rate of return appropriate
	for the Company?
A.	I recommend that the actual consolidated capital structure ratios and embedded
	long-term debt cost rate of UI at December 31, 2012 be used to establish an
	allowed overall rate of return for USSC. These ratios, as well as corresponding
	cost rates, are shown on Schedule 1. They consist of 52.44%, long-term debt at an
	embedded cost rate of 6.60%, and 47.56% common equity with Company Witness
	Dylan W. D'Ascendis' recommended range of common equity cost rate of
	10.25% - 11.25%.
Q.	Are the consolidated Parent actual capital structure ratios at December 31,
	2012 appropriate for use in a cost of capital determination?
A.	Yes. The Company's current capital structure contains 100% common equity and
	is not appropriate for ratemaking purposes. Because there would be no income
	tax shield resulting from interest expense deduction, a common equity ratio of
	100% would result in an unreasonably high revenue cost of capital and,
	consequently, higher than necessary rates for customers. The consolidated Parent
	A. Reas Term Q. A.

Carolina, Inc. (USSC or the Company) in the current proceeding.

1 c	capital structure ratios at December 31, 2012 are reasonable to use for the
2 (Company because they are consistent with the capital structure ratios maintained
3 0	on average by the proxy group of nine water companies relied upon by Mr.
4 Γ	D'Ascendis to derive his recommended common equity cost rate.

- How does the Parent's long-term debt ratio of 52.44% at December 31, 2012, compare with the long-term debt ratios maintained on average by the companies in Mr. D'Ascendis' proxy group?
- A. The Parent's long-term debt ratio of 52.44% at December 31, 2012 is similar to the long-term ratio or 49.12%, maintained on average by the companies in the proxy group of nine water companies upon whose market data Mr. D'Ascendis bases his recommended common equity cost rate for the year 2012. In addition, the long-term debt ratios of the nine water companies ranged from 42.49% to 55.39% in 2012, as shown on Schedule 2.
- 14 Q. Is the actual Parent long-term debt cost rate of 6.60% for USSC for ratemaking purposes?
- 16 A. Yes. The long-term debt cost rate is the actual embedded cost rate (including issuance expenses) of the Parent. Since the capital structure of the Parent is appropriate for ratemaking purposes, the actual cost associated with this debt is appropriate for ratemaking purposes as well.
- Q. What is your conclusion regarding the Company's ratemaking capital structure and related ratios and long-term debt cost rate?
- A. In view of the foregoing, it is my opinion that a capital structure based upon the Parent's consolidated capital structure ratios at December 31, 2012 of 52.44%

long-term debt and 47.56% common equity are very similar to the capital structure ratios maintained on average by Mr. D'Ascendis' proxy companies as well as within the range of individual proxy company capital structures. Thus, the consolidated capital structure ratios and long-term debt cost rate of the Parent are reasonable to use for ratemaking purposes in calculating the overall cost of capital for USSC.

- 7 Q. Does that conclude your direct testimony?
- 8 A. Yes

APPENDIX A

PROFESSIONAL QUALIFICATIONS

OF

PAULINE M. AHERN, CRRA PRINCIPAL

AUS CONSULTANTS

PROFESSIONAL QUALIFICATIONS OF PAULINE M. AHERN, CRRA PRINCIPAL AUS CONSULTANTS

PROFESSIONAL EXPERIENCE

1994-Present

In 1996, I became a Principal of AUS Consultants, continuing to offer testimony as an expert witness on the subjects of fair rate of return, cost of capital and related issues before state public utility commissions. I provide assistance and support to clients throughout the entire ratemaking litigation process. In addition, I supervise the financial analyst and administrative staff in the preparation of fair rate of return and cost of capital exhibits which are filed along with expert testimony before various state and federal public utility regulatory bodies. The team also assists in the preparation of interrogatory responses, as well as rebuttal exhibits.

As the Publisher of AUS Utility Reports (formerly C. A. Turner Utility Reports), I am responsible for the production, publishing, and distribution of the reports. AUS Utility Reports provides financial data and related ratios for about 80 public utilities, i.e., electric, combination gas and electric, natural gas distribution, natural gas transmission, telephone, and water utilities, on a monthly, quarterly and annual basis. Among the subscribers of AUS Utility Reports are utilities, many state regulatory commissions, federal agencies, individuals, brokerage firms, attorneys, as well as public and academic libraries. The publication has continuously provided financial statistics on the utility industry since 1930.

I am also responsible for maintaining and calculating the performance of the AGA Index, a market capitalization weighted index of the common stocks of the approximately 70 corporate members of the AGA, which serves as the benchmark for the AGA Gas Utility Index Fund.

As an Assistant Vice President from 1994 - 1996, I prepared fair rate of return and cost of capital exhibits which were filed along with expert testimony before various state and federal public utility regulatory bodies. These supporting exhibits include the determination of an appropriate ratemaking capital structure and the development of embedded cost rates of senior capital. The exhibits also support the determination of a recommended return on common equity through the use of various market models, such as, but not limited to, Discounted Cash Flow analysis, Capital Asset Pricing Model and Risk Premium Methodology, as well as an assessment of the risk characteristics of the client utility. I also assisted in the preparation of responses to any interrogatories received regarding such testimonies filed on behalf of client utilities. Following the filing of fair rate of return testimonies, I assisted in the evaluation of opposition testimony in order to prepare interrogatory questions, areas of cross-examination, and rebuttal testimony. I also evaluated and assisted in the preparation of briefs and exceptions following the hearing process. I also submitted testimony before state public utility commissions regarding appropriate capital structure ratios and fixed capital cost rates.

1990-1994

As a Senior Financial Analyst, I supervised two analysts and assisted in the preparation of fair rate of return and cost of capital exhibits which are filed along with expert testimony before various state and federal public utility regulatory bodies. The team also assisted in the preparation of interrogatory responses.

I evaluated the final orders and decisions of various commissions to determine whether further actions were warranted and to gain insight which assisted in the preparation of future rate of return studies.

I assisted in the preparation of an article authored by Frank J. Hanley and A. Gerald Harris entitled "Does Diversification Increase the Cost of Equity Capital?" published in the July 15, 1991 issue of <u>Public Utilities</u> Fortnightly.

In 1992, I was awarded the professional designation "Certified Rate of Return Analyst" (CRRA) by the National Society of Rate of Return Analysts (now the Society of Utility and Regulatory Financial Analysts (SURFA)). This designation is based upon education, experience and the successful completion of a comprehensive examination.

As Administrator of Financial Analysis for AUS Utility Reports, which then reported financial data for over 200 utility companies with approximately 1,000 subscribers, I oversaw the preparation of this monthly publication, as well as the accompanying annual publication, <u>Financial Statistics - Public Utilities</u>.

1988-1990

As a Financial Analyst, I assisted in the preparation of fair rate of return studies including capital structure determination, development of senior capital cost rates, as well as the determination of an appropriate rate of return on equity. I also assisted in the preparation of interrogatory responses, interrogatory questions of the opposition, areas of cross-examination and rebuttal testimony. I also assisted in the preparation of the annual publication <u>C. A.</u> Turner Utility Reports - Financial Statistics -Public Utilities.

1973-1975

As a Research Assistant in the Research Department of the Regional Economics Division of the Federal Reserve Bank of Boston, I was involved in the development and maintenance of econometric models to simulate regional economic conditions in New England in order to study the effects of, among other things, the energy crisis of the early 1970's and property tax revaluations on the economy of New England. I was also involved in the statistical analysis and preparation of articles for the New England Business Indicators. Also, I was Assistant Editor of New England Business Indicators.

1972

As a Research Assistant in the Office of the Assistant Secretary for International Affairs, U.S. Treasury Department, Washington, D.C., I developed and maintained econometric models which simulated the economy of the United States in order to study the results of various alternate foreign trade policies so that national trade policy could be formulated and recommended.

Clients Served

I have offered expert testimony before the following commissions:

Arkansas Maine
Arizona Maryland
British Columbia Michigan
California Missouri
Canada Nevada

Connecticut New Hampshire
Delaware New Jersey
Florida New York
Hawaii North Carolina

IdahoOhioIllinoisPennsylvaniaIndianaRhode IslandIowaSouth CarolinaKentuckyVirginiaLouisianaWashington

I have sponsored testimony on fair rate of return and related issues for:

Alpena Power Company
Aqua New Jersey, Inc.
Apple Canyon Utility Company
Aqua North Carolina, Inc.
Applied Wastewater Management, Inc.
Aqua Illinois, Inc.
Aqua Virginia, Inc

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Rate of Return Testimony Clients Continued

Aquarion Water Company

Aquarion Water Co. of New Hampshire, Inc.

Arizona Water Company Artesian Water Company Bermuda Water Company

The Atlantic City Sewerage Company

Audubon Water Company The Borough of Hanover, PA Carolina Pines Utilities, Inc.

Carolina Water Service, Inc. of NC Carolina Water Service, Inc. of SC Chaparral City Water Company The Columbia Water Company The Connecticut Water Company

Consumers Illinois Water Company Consumers Maine Water Company Consumers New Jersey Water Company

City of DuBois, Pennsylvania Elizabethtown Water Company Emporium Water Company GTE Hawaiian Telephone Inc. Greenridge Utilities, Inc.

Illinois American Water Company Iowa American Water Company Jersey Central Power & Light Co. Water Services Corp. of Kentucky Lake Wildwood Utilities Corp. Land Or Utility Company

Long Island American Water Company

Long Neck Water Company Louisiana Water Service, Inc.

Massanutten Public Service Company

Middlesex Water Company

Missouri-American Water Company

Mt. Holly Water Company Nero Utility Services, Inc. New Jersey Utilities Association The Newtown Artesian Water Company NRG Energy Center Pittsburgh LLC NRG Energy Center Harrisburg LLC Ohio-American Water Company

Penn Estates Utilities Pinelands Water Company Pinelands Waste Water Company

Pittsburgh Thermal

San Gabriel Valley Water Company

San Jose Water Company
Southland Utilities, Inc.
Spring Creek Utilities, Inc.
Sussex Shores Water Company
Tega Cay Water Services, Inc.
Total Environmental Services, Inc. –
Treasure Lake Water & Sewer Divisions

Thames Water Americas Tidewater Utilities, Inc. Transylvania Utilities, Inc.

Trigen - Philadelphia Energy Corporation

Twin Lakes Utilities, Inc. United Utility Companies United Water Arkansas, Inc.

United Water Arlington Hills Sewerage, Inc.

United Water Connecticut, Inc. United Water Delaware, Inc.

United Water Great Gorge Inc. / United Water

Vernon Transmission, Inc.
United Water Idaho, Inc.
United Water Indiana, Inc.
United Water New Jersey, Inc.
United Water New Rochelle, Inc.
United Water New York, Inc.
United Water Owego / Nichols, Inc.
United Water Pennsylvania, Inc.
United Water Rhode Island, Inc.

United Water South County, Inc.
United Water Toms River, Inc.
United Water Vernon Sewage Inc.
United Water Virginia, Inc.
United Water Westchester, Inc.
United Water West Lafayette, Inc.
United Water West Milford, Inc.

Utilities, Inc.

Utilities, Inc. of Central Nevada
Utilities, Inc. of Florida
Utilities, Inc. of Louisiana
Utilities, Inc. of Nevada
Utilities, Inc. of Pennsylvania
Utilities, Inc. - Westgate

Utilities Services of South Carolina

Utility Center, Inc. Valley Energy, Inc.

Wellsboro Electric Company Western Utilities, Inc.

I have sponsored testimony on generic/uniform methodologies for determining the return on common equity

for:

Aquarion Water Company The Connecticut Water Company Corix Multi-Utility Services, Inc. United Water Connecticut, Inc. Utilities, Inc

I have sponsored testimony on the rate of return and capital structure effects of merger and acquisition issues for:

California-American Water Company New Jersey-American Water Company

I have sponsored testimony on capital structure and senior capital cost rates for the following clients:

Alpena Power Company PG Energy Inc.

Arkansas-Western Gas Company United Water Delaware, Inc.
Associated Natural Gas Company Washington Natural Gas Company

I have sponsored testimony on Distribution System Improvement Charges (DSIC):

Arizona Water Company

I have assisted in the preparation of rate of return studies on behalf of the following clients:

Algonquin Gas Transmission Company

Anadarko Petroleum Corporation

Hawaiian Electric Company

Hawaiian Electric Light Company

Arizona Water Company IES Utilities Inc.

Arkansas-Louisiana Gas Company
Arkansas Western Gas Company
Artesian Water Company
Illinois Power Company
Interstate Power Company
Interstate Power & Light Co.

Associated Natural Gas Company
Atlantic City Electric Company
Bridgeport-Hydraulic Company
Cambridge Electric Light Company
Lockhart Power Company
Lockhart Power Company

Carolina Power & Light Company Middlesex Water Company

Citizens Gas and Coke Utility Milwaukee Metropolitan Sewer District

City of Vernon, CA Mountaineer Gas Company

Columbia Gas/Gulf Transmission Cos.

Commonwealth Electric Company

Commonwealth Telephone Company

Conestoga Telephone & Telegraph Co.

Connecticut Natural Gas Corporation

Consolidated Gas Transmission Company

Consumers Power Company

Consumers Power Company

CWS Systems Inc.

National Fuel Gas Distribution Corp.

New Gas Supply Corp.

New Jersey Natural Gas Company

New Jersey-American Water Company

North Carolina Natural Gas Corp.

North Carolina Natural Gas Corp.

CWS Systems, Inc.

Northumbrian Water Company
Delmarva Power & Light Company
East Honolulu Community Services, Inc.

Oklahoma Natural Gas Company
Equitable Gas Company
Orange and Rockland Utilities

Equitable Gas Company Orange and Rockland Util Equitrans, Inc. Paiute Pipeline Company

Equitrans, Inc.

Paiute Pipeline Company

Florida Power & Light Company

Gary Hobart Water Company

Penn Estates Utilities, Inc.

Gasco, Inc.

GTE Arkansas, Inc.

GTE California, Inc.

Penn-York Energy Corporation
Pennsylvania-American Water Co.
PG Energy Inc.

GTE Florida, Inc.

Philadelphia Electric Company
GTE Hawaiian Telephone

Providence Gas Company

GTE North, Inc.

GTE Northwest, Inc.

GTE South Carolina Pipeline Company
Southwest Gas Corporation
Stamford Water Company

Great Lakes Gas Transmission L.P. Tesoro Alaska Petroleum Company

Rate of Return Study Clients Continued

Tesoro Refining & Marketing Co. United Telephone of New Jersey

United Utility Companies United Water Arkansas, Inc. United Water Delaware, Inc. United Water Idaho, Inc.

United Water Indiana, Inc.

United Water New Jersey, Inc. United Water New York, Inc.

United Water Pennsylvania, Inc.

United Water Virginia, Inc.

United Water West Lafayette, Inc.

Utilities, Inc. of Pennsylvania Utilities, Inc. - Westgate

Vista-United Telecommunications Corp. Washington Gas Light Company

Washington Vatural Gas Company
Washington Water Power Corporation
Waste Management of New Jersey –

Transfer Station A

Wellsboro Electric Company

Western Reserve Telephone Company

Western Utilities, Inc.

Wisconsin Power and Light Company

EDUCATION:

1973 – Clark University – B.A. – Honors in Economics (Concentration: Econometrics and Regional/International Economics)

1991 – Rutgers University – M.B.A. – High Honors (Concentration: Corporate Finance)

PROFESSIONAL AFFILIATIONS:

Advisory Council - New Mexico State University Center for Public Utilities

Advisory Board - Financial Research Institute - University of Missouri's Trulaske School of Business

Edison Electric Institute – Cost of Capital Working Group

National Association of Water Companies – Member of the Finance/Accounting/Taxation and Rates and Regulation Committees

Society of Utility and Regulatory Financial Analysts

Member, Board of Directors - 2010-2014

President - 2006-2008 and 2008-2010

Secretary/Treasurer – 2004-2006

American Finance Association

Financial Management Association

Energy Bar Association

Energy Association of Pennsylvania

SPEAKING ENGAGEMENTS:

"Regulated Utilities – Access to Capital", (panelist) - Innovation: Changing the Future of Energy, 2013 Deloitte Energy Conference, Deloitte Center for Energy Solutions, May 22, 2013, Washington, DC.

"Comparative Evaluation of the Predictive Risk Premium Model, the Discounted Cash Flow Model and the Capital Asset Pricing Model for Estimating the Cost of Common Equity", (co-presenter with Richard A. Michelfelder, Ph.D., Rutgers University) – Advanced Workshop in Regulation and Competition, 32nd Annual Eastern Conference of the Center for Research in Regulated Industries (CRRI), May 17, 2013, Rutgers University, Shawnee on the Delaware, PA.

"Decoupling: Impact on the Risk and Cost of Common Equity of Public Utility Stocks", before the Society of Utility and Regulatory Financial Analysts: 45th Financial Forum, April 17-18, 2013, Indianapolis, IN.

"Issues Surrounding the Determination of the Allowed Rate of Return", before the Staff Subcommittee on Electricity of the National Association of Regulatory Utility Commissioners, Winter 2013 Committee Meetings, February 3, 2013, Washington, DC.

"Leadership in the Financial Services Sector", Guest Professor – Cost of Capital, Business Leader Development Program, Rutgers University School of Business, February 1, 2013, Camden, NJ.

- "Analyst Training in the Power and Gas Sectors", SNL Center for Financial Education, Downtown Conference Center at Pace University, New York City, December 12, 2012, Instructor (Financial Statement Analysis).
- "Regulatory Training in Financing Planning, Strategies and Accounting Issues for Publicly and Privately Owned Water and Wastewater Utilities", New Mexico State University Center for Public Utilities, October 14-19, 2012, Instructor (Cost of Financial Capital).
- "Application of a New Risk Premium Model for Estimating the Cost of Common Equity", Co-Presenter with Dylan W. D'Ascendis, CRRA, AUS Consultants, Edison Electric Institute Cost of Capital Working Group, October 3, 2012, Webinar.
- "Application of a New Risk Premium Model for Estimating the Cost of Common Equity", Co-Presenter with Dylan W. D'Ascendis, CRRA, AUS Consultants, Staff Subcommittee on Accounting and Finance of the National Association of Regulatory Commissioners, September 10, 2012, St. Paul, MN.
- "Analyst Training in the Power and Gas Sectors", SNL Center for Financial Education, Downtown Conference Center at Pace University, New York City, August 7, 2012, Instructor (Financial Statement Analysis).
- "Advanced Regulatory Training in Financing Planning, Strategies and Accounting Issues for Publicly and Privately Owned Water and Wastewater Utilities", New Mexico State University Center for Public Utilities, May 13-17, 2012, Instructor (Cost of Financial Capital).
- "A New Approach for Estimating the Equity Risk Premium Applied to Public Utilities", before the Finance and Regulatory Committees of the National Association of Water Companies, March 29, 2012, Telephonic Conference.
- "A New Approach for Estimating the Equity Risk Premium Applied to Public Utilities", (co-presenter with Frank J. Hanley, Principal and Director, AUS Consultants) before the Water Committee of the National Association of Regulatory Utility Commissioners' Winter Committee Meetings, February 7, 2012, Washington, DC.
- "A New Approach for Estimating the Equity Risk Premium Applied to Public Utilities", (co-presenter with Richard A. Michelfelder, Ph.D., Rutgers University and Frank J. Hanley, Principal and Director, AUS Consultants) before the Wall Street Utility Group, December 19, 2011, New York City, NY.
- "Advanced Cost and Finance Issues for Water", (co-presenter with Gary D. Shambaugh, Principal & Director, AUS Consultants), 2011 Advanced Regulatory Studies Program Ratemaking, Accounting and Economics, September 29, 2011, Kellogg Center at Michigan State University Institute for Public Utilities, East Lansing, MI.
- "Public Utility Betas and the Cost of Capital", (co-presenter with Richard A. Michelfelder, Ph.D., Rutgers University) Advanced Workshop in Regulation and Competition, 30th Annual Eastern Conference of the Center for Research in Regulated Industries (CRRI), May 20, 2011, Rutgers University, Skytop, PA.

Moderator: Society of Utility and Regulatory Financial Analysts: 43rd Financial Forum – "Impact of Cost Recovery Mechanisms on the Perception of Public Utility Risk", April 14-15, 2011, Washington, DC.

- "A New Approach for Estimating the Equity Risk Premium for Public Utilities", (co-presenter with Richard A. Michelfelder, Ph.D., Rutgers University) Hot Topic Hotline Webinar, December 3, 2010, Financial Research Institute of the University of Missouri.
- "A New Approach for Estimating the Equity Risk Premium for Public Utilities", (co-presenter with Richard A. Michelfelder, Ph.D., Rutgers University) before the Indiana Utility Regulatory Commission Cost of Capital Task Force, September 28, 2010, Indianapolis, IN

Tomorrow's Cost of Capital: Cost of Capital Issues 2010, Deloitte Center for Energy Solutions, 2010 Deloitte Energy Conference, "Changing the Great Game: Climate, Customers and Capital", June 7-8, 2010, Washington, DC.

"A New Approach for Estimating the Equity Risk Premium for Public Utilities", (co-presenter with Richard A. Michelfelder, Ph.D., Rutgers University) – Advanced Workshop in Regulation and Competition, 29th Annual Eastern Conference of the Center for Research in Regulated Industries (CRRI), May 20, 2010, Rutgers University, Skytop, PA

Moderator: Society of Utility and Regulatory Financial Analysts: 42^{nd} Financial Forum – "The Changing Economic and Capital Market Environment and the Utility Industry", April 29-30, 2010, Washington, DC

"A New Model for Estimating the Equity Risk Premium for Public Utilities" (co-presenter with Richard A. Michelfelder, Ph.D., Rutgers University) – Spring 2010 Meeting of the Staff Subcommittee on Accounting and Finance of the National Association of Regulatory Utility Commissioners, March 17, 2010, Charleston, SC

"New Approach to Estimating the Cost of Common Equity Capital for Public Utilities" (co-presenter with Richard A. Michelfelder, Ph.D., Rutgers University) - Advanced Workshop in Regulation and Competition, 28th Annual Eastern Conference of the Center for Research in Regulated Industries (CRRI), May 14, 2009, Rutgers University, Skytop, PA

Moderator: Society of Utility and Regulatory Financial Analysts: 41st Financial Forum – "Estimating the Cost of Capital in Today's Economic and Capital Market Environment", April 16-17, 2009, Washington, DC

"Water Utility Financing: Where Does All That Cash Come From?", AWWA Pre-Conference Workshop: Water Utility Ratemaking, March 25, 2008, Atlantic City, NJ

PAPERS:

"Comparative Evaluation of the Predictive Risk Premium ModelTM, the Discounted Cash Flow Model and the Capital Asset Pricing Model", co-authored with Richard A. Michelfelder, Ph.D., Rutgers University, Dylan W. D'Ascendis, and Frank J. Hanley, <u>The Electricity Journal</u>, May, 2013.

"A New Approach for Estimating the Equity Risk Premium for Public Utilities", co-authored with Frank J. Hanley and Richard A. Michelfelder, Ph.D., Rutgers University, <u>The Journal of Regulatory Economics</u> (December 2011), 40:261-278.

"Comparable Earnings: New Life for Old Precept" co-authored with Frank J. Hanley, <u>Financial Quarterly Review</u>, (American Gas Association), Summer 1994.